



Briefing Paper Endangered White River Spring Chinook at Little White Salmon NFH

Date: March 13, 2006

PURPOSE OF PAPER: Discuss a proposal to rear endangered White River Spring Chinook, derived from captive brood stock, at the Little White Salmon/Willard NFH Complex

ISSUES:

- The White River spring Chinook spawning aggregation is severely depressed and persistently experiences escapement levels below critical population thresholds. The White River spawning aggregation is within the Upper Columbia River Spring-run Chinook Salmon ESU which is listed as Endangered (FR Vol. 64, No. 56, March 24, 1999). This ESU contains all naturally spawned populations of Chinook in Columbia River tributaries upstream of Rock Island Dam and downstream of Chief Joseph Dam excluding the Okanogan River. The ESU also includes hatchery propagation of the White River, Nason Creek, Chiwawa River, Twisp River, Methow River, and Chewuch River stocks.
- The goal of this program is to prevent the extinction of, conserve, and ultimately restore the naturally spawning White River spring Chinook salmon spawning aggregation (Wenatchee River watershed). This recovery program has been incorporated into the mitigation responsibilities of Public Utility District No. 2 of Grant County through their Biological Opinion (dated May 3, 2004).
- The White River spring Chinook captive broodstock are currently held at Aquaseed Inc., a private fish hatchery located in Rochester, WA. PUD No. 2 of Grant County covers all costs associated with that program that include operational costs at Aquaseed Inc. (\$1,070,000 during 2004), monitoring and evaluation by the Washington Department of Fish & Wildlife (\$456,000 proposed for 2004), and program development and administration by PUD No. 2 of Grant County (\$85,000 in 2004).
- Production goals identified in the Grant County PUD Biological Opinion exceed available rearing space at Aquaseed. The Priest Rapids Coordinating Committee–Hatchery Subcommittee, composed of representatives from the Yakama Nation, Colville Tribe, U.S. Fish and Wildlife Service, WDFW, and NOAA-Fisheries, searched for available rearing space at other facilities to meet White River spring Chinook juvenile production for the next several years as identified in the biological opinion. The PRCC–Hatchery Subcommittee asked about using available rearing space at Little White Salmon NFH, Willard NFH, and at the off-site incubation facility at Carson Depot Springs to rear progeny from captive brood for reintroduction back into the White River system. While the agencies and Grant County PUD are

strongly in favor of this proposal, representatives of Aquaseed may perceive the NFH system's involvement as usurping private enterprise.

- Due to recent program changes at Willard NFH, the Little White Salmon/Willard NFH Complex has adequate space to assume responsibility for rearing up to 150,000 pre-smolts to assist with recovery efforts. A draft proposal detailing the Complex production potential was well received by PUD No. 2 of Grant County and the PRCC-Hatchery Subcommittee. Production levels are dictated by the availability of adequate rearing space to achieve ultra-low rearing densities relative to segregated ELISA optical density rearing groups.
- Following a review of the White River spring Chinook HGMP, FWS geneticist Don Campton noted that some sort of hatchery intervention is clearly warranted. Don also noted that this stock is considered one of the most genetically divergent stocks of spring Chinook in the mid-Columbia region (ESU), that for most years recruits per spawner have been less than 1.0, and based on redd counts for return years 1990-2004 run sizes have ranged from 2 to 158 adults after expansion. Furthermore, Don compared the Western Washington Hatchery Scientific Review Group "white paper" guidance on hatchery intervention for stocks considered to have a high "biological significance" to the White River spring Chinook status. Based on those guidelines, hatchery intervention to prevent future loss of genetic diversity in this stock is clearly warranted.
- Fish health concerns have been raised given high ELISA results for the captive brood program at Aquaseed and their possible impacts to fish health on existing programs at the Little White Salmon/Willard NFH Complex. However, it is believed that through a combination of hatchery management practices that the Service can successfully produce these fish and minimize the potential for adverse impacts to existing programs at the Complex. These practices include rearing fish at ultra low densities, maintaining best management practices (e.g., minimizing cross contamination between raceways), and ensuring fish segregation structures (e.g., double raceway screens, predator exclusion fencing, etc.) are operational and in good working order. Additional discussions are ongoing regarding the appropriateness and desirability of culling eggs from high titer females to reduce the probability of BKD outbreaks.
- Grant County PUD is required under its HGMP to fund the White River Captive Brood Program (CBP) and develop the Nason Creek stock. Weirs, acclimation ponds, and potentially a hatchery facility are to be built in both tributaries. At this time, no weirs or facilities have been built on either tributary and therefore, the White River CBP is the only one operational. Several local landowners and the U.S. Forest Service feel construction of infrastructure on the White River and Nason Creek runs counter to floodplain protection efforts and designation of a portion of the White River as a Wild and Scenic River. One prominent landowner disagrees with the "uniqueness" of the White River spawning aggregation and opposes the use of captive broodstock programs. While use of Little White Salmon NFH is only expected to be a two year program, Grant County and the PRCC - Hatchery

Subcommittee are having difficulty securing weirs and acclimation ponds sites on the Nason Creek. Delays in this process could extend the need for Little White Salmon NFH involvement beyond the two year window.

MAIN DECISION OR MESSAGE:

- Participation in the White River spring Chinook rearing program using facilities at the Little White Salmon/Willard NFH Complex should be initiated with the transfer of brood year 2006 gametes derived from captive broodstock spawned at Aquaseed Inc. Production will be coordinated with the PRCC–Hatchery Subcommittee and PUD No. 2 of Grant County. The production program will adhere to rearing densities and fish health guidelines identified in the September 2005 HGMP (0.06 DI for ELISA O.D. > 0.12; 0.125 DI for ELISA O.D. < 0.12). Isolate and segregate progeny during hatchery rearing using ELISA optical density criteria. Recover all costs associated with this program from PUD No. 2 of Grant County sufficient to keep Willard NFH fully operational to assist with the recovery of this endangered stock of fish.

BUREAU PERSPECTIVE:

- Support the wise use of a national fish hatchery program, supported by a scientifically sound fish propagation program leading to the recovery of an endangered stock of fish. Program implementation comes with some fish health risk although this risk falls within Service BKD policy. Implementation of best management practices will limit fish health risk to other hatchery programs. Benefit outweighs risk as failure to support this effort and the resulting ESA-recovery of this stock of fish may result in extinction of the White River spawning aggregation.

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